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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,942	05/22/2006	Takashi Kikuchi	062604	9811

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EXAMINER

MCCLELLAND, KIMBERLY KEIL

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

03/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/579,942

Applicant(s)

KIKUCHI ET AL.

Examiner

KIMBERLY K. MCCLELLAND

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application Publication No. 2002-361744 to Hase et al. (machine translation provided) in view of U.S. Patent No. 5,677,024 to Abe et al.
3. With respect to claim 1, Hase et al. discloses a method of manufacturing a laminated sheet, including an adhesive film (1) having a metal foil (1) bonded to at least one side thereof, the method comprising: a step of performing thermal lamination of the adhesive film and the metal foil by passing them with protective films (5) through between a pair of metal rolls (4); and a step of separating the protective films (See Figures 12-14). However, Hase et al. does not specifically disclose the molecular orientation ratio of the protective film is in a range of 1.0 to 1.7, and the deviation of the molecular orientation ratio in each of the machine direction and the transverse direction of the protective film is 0.1 or less.
4. Abe et al. discloses a laminating method, including a protective release film with the molecular orientation ratio of the protective film in a range of 1.0 to 1.7, and the deviation of the molecular orientation ratio in each of the machine direction and the transverse direction of the protective film is 0.1 or less (column 3, lines 22-26 and lines

42-60; See Table 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the molecular orientation values of the protective film taught by Abe et al. with the protective film of Hase et al. The motivation would have been to allow for visual inspection of the laminate for foreign matter (column 2, lines 42-55).

5. As to claim 2, Hase et al. discloses a laminate including polyimide protective film and copper metal foil (See paragraph 0023). Hase et al. does not specifically disclose the linear expansion coefficient α of the protective film at 200°C to 300°C is in a range of $(\alpha_0 - 10)$ ppm/°C to $(\alpha_0 + 10)$ ppm/°C, wherein α_0 is the linear expansion coefficient of the metal foil at 200°C to 300°C. However, the properties of linear expansion coefficients are known in the art to be material dependent properties. Therefore, the method of Hase et al. employing the same materials in the same way as applicant's current invention would inherently result in the same linear expansion coefficients.

6. As to claim 3, Hase et al. discloses a laminate including thermoplastic polyimide adhesive, polyimide protective film, and copper metal foil (See paragraph 0023). Hase et al. does not specifically disclose the tensile elastic modulus of the protective film at 25°C is in a range of 2 GPa to 10 GPa. However, the tensile elastic modulus of a material is known in the art to be a material dependent property. Therefore, the method of Hase et al. employing the same materials in the same way as applicant's current invention would inherently result in the same tensile elastic modulus.

7. As to claims 4 and 6, Hase et al. discloses the thickness of the protective film is 75 μm or more (See paragraph 0020).

8. As to claims 5 and 7-8, Hase et al. discloses the protective film is a non-thermoplastic polyimide film (See paragraph 0023).

Response to Arguments

9. Applicant's arguments filed 12/17/08 have been fully considered but they are not persuasive.

10. In response to the current amendment, the rejections of claims 1-8 under 35 U.S.C. 112 has been withdrawn.

11. In response to applicant's argument that Hase and Abe are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references are concerned with the lamination of protective films. The ability to visually inspect the laminate for foreign matter would be equally preferable for Hase as described in Abe. Dirt and debris that become trapped during lamination would disrupt the function of the flexible printed circuit board in Hase, interrupting electrical connections. Consequently the motivation supplied by the examiner of allowing for visual inspection of the laminate for foreign matter would be beneficial to Hase and is a proper motivation for the combined teachings.

12. In response to applicant's argument that the molecular orientation contributes to appearance and dimensional stability, the fact that applicant has recognized another

advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Granting a patent on the discovery of an unknown but inherent function (here films of good appearance and dimensional stability) "would re-move from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art." 596 F.2d at 1022, 201 USPQ at 661.); In *re Baxter Travenol Labs.*, 952 F.2d 388, 21 USPQ2d 1281 (Fed. Cir. 1991)

13. As to applicant's argument that the method of Abe discloses MOR deviation is measured in a different manner from that disclosed by applicant, this argument is not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., measuring molecular orientation every 0.3 m in the MD every 0.3 m in the TD and checking for deviation) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

14. In response to applicant's argument that Hase, the secondary reference, does not disclose the recited film thickness, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the

Art Unit: 1791

references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

15. Applicant's remaining arguments are based on the dependency of claims 2-8 on independent claim 1. These arguments are not persuasive for reasons noted above. Consequently, the rejection is maintained.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIMBERLY K. MCCLELLAND whose telephone number is (571)272-2372. The examiner can normally be reached on 8:00 a.m.-5 p.m. Mon-Thr.

Art Unit: 1791

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip C. Tucker can be reached on (571)272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kimberly K McClelland/
Examiner, Art Unit 1791

KKM

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791